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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------|------------------|
| 10/753,252  | 01/08/2004  | Jonathan D. Bradford | 02AB203A/ALBRP329USA | 6745             |
| 7590<br>Susan M. Donahue<br>Rockwell Automation, 704-P, IP Department<br>1201 South 2nd Street<br>Milwaukee, WI 53204 |             |                      |                      |                  |
| EXAMINER  |             |                      |                      |                  |
| WINDER, PATRICE L   |             |                      |                      |                  |
| ART UNIT  |             | PAPER NUMBER         |                      |                  |
| 2445  |             |                      |                      |                  |
| MAIL DATE   |             | DELIVERY MODE        |                      |                  |
| 05/28/2009  |             | PAPER                |                      |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/753,252

**Applicant(s)**

BRADFORD ET AL.

**Examiner**

Patrice Winder

**Art Unit**

2445

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 23-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22, 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 26, 2008 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-15, 18-22, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson, USPN 6,788,980 B1 (hereafter referred to as Johnson) in view of Vuong et al., USPN 6,788,980 B1 (hereafter referred to as Vuong).

[claim 1] Johnson taught a component that discovers devices on disparate networks within industrial control systems (column 15, lines 36-49), comprising:

an interface component that couples at least one TCP/IP-based network with one or more non-TCP/IP-based networks (column 7, lines 12-20); and,

a service component that searches both the at least one TCP/IP-based network and the one or more non-TCP/IP-based networks for devices and returns information indicative of discovered devices (name service, column 9, lines 33-40; column 16, lines 21-25).

Johnson does not specifically describe the search feature of the name service.

However, Vuong taught searching using a name search (column 6, lines 44-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made that incorporating Vuong's name service results in Johnson's name service would have improved system scalability. The motivation would have been to uniquely identify the named "services" and facilitate more efficient searching.

[claim 2] Johnson taught the non-TCP/IP-based networks are employed in connection with one or more industrial protocols (column 8, lines 40-45).

[claim 3] Johnson taught the industrial protocols comprise at least one of Ethernet/IP, DeviceNet and ControlNet (Ethernet, column 8, lines 28-39).

[claim 4] Johnson taught the interface component and the service component reside within a microprocessor-based system or an EtherNet/IP-based module (column 8, lines 28-39).

[claim 5] Johnson taught the interface component provides Web-based communication with the devices (column 7, lines 21-28).

[claim 7] Johnson taught the service component detects when a network or device is added or removed and dynamically updates the returned information (column 16, line 25).

[claim 8] Johnson taught the interface component further provides a security

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mechanism that mitigates device access by unauthorized requesters (column 17, lines 46-54).

[claim 9] Johnson taught the security mechanism is based on at least one of a policy, a password, a firewall, a code, an identity, a log-on, and an address (column 17, lines 19-27).

[claim 10] Johnson taught the interface component is provided with at least one of the following to facilitate discovering devices: a particular device; a device type; a device characteristic; a requester identity; a keyword; and a link to a search engine (column 16, lines 21-27).

[claim 11] Johnson taught the device characteristic indicates the search is directed to at least one of configured devices, added devices, removed devices and faulted devices (column 16, lines 55-62).

[claim 12] Vuong taught the service component filters results prior to returning information (column 6, lines 44-54).

[claim 13] Johnson taught a portal that provides Web communication with industrial devices residing on TCP/IP based and non-TCP/IP based networks (column 15, lines 36-49), comprising:

a proxy component that facilitates access to the TCP/IP based and non-TCP/IP based networks (column 7, lines 12-20); and

an engine that discovers industrial devices residing on both the TCP/IP based and non-TCP/IP based networks and provides information related to the industrial devices, the information can be utilized in connection with the proxy to communicate

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with the industrial devices (name service, column 9, lines 33-40; column 16, lines 21-25). Johnson does not specifically describe the search feature of the name service. However, Vuong taught searching using a name search (column 6, lines 44-54). For motivation for combination see claim 1, above.

[claim 14] Johnson taught the proxy component employs software that provides Web functionality for industrial devices on the non-TCP/IP networks (column 7, lines 12-20).

[claim 15] Johnson taught the proxy component facilitates communication between industrial devices residing on similar and different networks (column 16, lines 55-62).

[claim 18] Johnson taught the engine dynamically discovers newly added and removed networks and industrial devices and dynamically updates the related information (column 16, lines 6-15).

[claim 19] Johnson taught the engine employs intelligence that facilitates locating and discovering industrial devices and returning related information (column 15, lines 43-50), the intelligence employs at least one of a statistic, a probability, a classifier, and an inference (column 16, lines 3-5).

[claim 20] Johnson taught the proxy component facilitates one or more of the following: controlling, configuring, monitoring, and communicating with the industrial devices (column ).

[claim 21] Johnson taught the proxy component further comprises the ability to retrieve industrial device-related information from one or more of a manual, a web page, a log, a history and a file (column 20, lines 23-38).

[claim 22] Johnson taught a configurable security component that verifies and validates

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authorization to one or more of the industrial devices (column 11, lines 51-59).

[claim 30] Johnson taught a system that facilitates Web access to industrial devices residing on disparate networks (column 15, lines 36-49), comprising:

means for interacting with TCP/IP and non-TCP/IP networks (column 7, lines 12-20);

means for discovering industrial devices associated with the TCP/IP and non-TCP/IP-based networks (column 16, lines 21-41; column 9, lines 34-40);

means for accessing the discovered devices (column 16, lines 42-62).

Johnson does not specifically teach means for returning information indicative of the discovered devices. However, Vuong taught means for returning information indicative of discovered devices (column 6, lines 44-54). For motivation for combination see claim 1, above.

4. Claims 6, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson-Vuong.

5. [claim 6] Hite taught the service component re-discovers networks and devices (Provisions (and removes) system ID for different content providers, column 6, lines 10-14; column 7, lines 16-23. Dynamically leases and releases addresses for industrial devices, column 37, lines 45-65). Hite does not specifically teach re-discovering periodically. However, "official notice" is taken that Dynamic Host Control Protocol (DHCP) is a dynamic address assignment protocol that re-discovers periodically. It would have been obvious to one of ordinary skill in the art at the time the invention was

made that incorporating DHCP's periodically in Hite's system for interconnecting CAN networks and the Internet would have improved robustness. The motivation would have been to ensure that addresses are returned to the address pool when devices leave the network.

[claim 16] Vuong taught the proxy component that facilitates receiving and conveying information with the industrial devices (column 7, lines 12-20). Johnson-Vuong does not specifically teach a Universal Serial Bus (USB) interface. "Official notice" is taken that USB is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made that incorporating USB in Johnson-Vuong's system for integrating disparate control area networks would have improved flexibility. The motivation would have been to reduce complexity and improve plug-and-play capabilities.

[claim 17] Johnson-Vuong does not specifically teach the non-TCP/IP-based networks employ at least one of a Control & Information Protocol (CIP) network and a Data Highway Plus (DH+) network. "Official notice" is taken that Ethernet/IP is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made that incorporating Ethernet/IP (e.g. CIP) in Johnson-Vuong's system for interconnecting disparate control networks and the Internet would have been an upgrade. The motivation would have been gain the advantages associated with Ethernet/IP which is specialized for control area networks.



***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrice Winder whose telephone number is 571-272-3935. The examiner can normally be reached on Monday-Friday, 10:30 am-7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrice Winder/  
Primary Examiner, Art Unit 2445

May 26, 2009